Claims

1. A near-field radar obstacle detection apparatus and comprising:

a fixed beam planar radar antenna; and

an adaptation device for shaping a transmitted or received radiation of said antenna, including a plurality of dielectric elements that individually constitute different surface portions of an imaginary idealized quasi-spherical or quasi-cylindrical reflector disposed substantially at a near-field boundary of said antenna.

2. The apparatus of Claim 1, wherein said dielectric elements are supported by a radome that is otherwise transparent to the transmitted or received radiation.

3. The apparatus of Claim 2, wherein said dielectric elements are insert-molded into said radome.

4. The apparatus of Claim 1, wherein two or more of said dielectric elements are combined about a diffraction point of said antenna to form a single multi-faceted dielectric element disposed substantially at said near-field boundary.

5. The apparatus of Claim 1, wherein said idealized reflector is quasi-cylindrical, and said dielectric elements are defined by different surface portions of a post disposed substantially at said near-field boundary.

6. The apparatus of Claim 1, wherein said adaptation device compensates for off-axis or off-center orientation of said antenna.

7. The apparatus of Claim 1, wherein said adaptation device extends a field-of-view of said antenna.

8. The apparatus of Claim 1, wherein a radar antenna is mounted on a bumper of said vehicle, and said adaptation device is supported on a fascia that surrounds said bumper.